

INFORMATION BULLETIN

INSIDE FLAMMABLE LIQUID STORAGE ROOMS

Code Reference:

California Fire Code (CFC) 2001, Section 7902.5.11

California Building Code (CBC) 2001, Section 307.1.4

GENERAL:

Quantities of liquids exceeding those set forth in Section 79.205.7 for storage in occupancies shall be stored in a liquid storage room complying with Section 7902.5.11. Such rooms shall be classified as Group H, Division 3 Occupancies.

QUANTITIES AND ARRANGEMENT OF STORAGE:

1. **General:** The quantities and arrangements of liquid storage shall be in accordance with Table No. 7902.5-D or 79.02.5-E and Section 7902.5.11.2.
2. **Mixed Storage:** When two or more classes of liquids are stored in a single pile or single rack section, the quantity in the pile or rack section shall not exceed the smallest of the maximum quantities for the classes of liquids stored in accordance with Table 7902.5-D or 7902.5-E.
3. **Separation and Aisles:** Piles shall be separated from each other by at least 4-foot aisles. Aisles shall be provided so that all containers are 12 feet or less from an aisle. Where the storage of liquids is on racks, a minimum 4-foot- wide aisle shall be provided between adjacent rows of racks and adjacent storage of liquids. Main aisles shall be a minimum of 8-feet wide (CFC 7902.5.11.2.3).

Additional aisles shall be provided for access to doors, required windows and ventilation openings, standpipe connections, mechanical equipment, and switches. Such aisles shall be at least 3 feet in width, unless greater widths are required for separation of piles or racks, in which case the greater width shall be provided.

4. **Stabilizing and Supports For Storage:** Containers and piles shall be separated by pallets or dunnage to provide stability and to prevent excessive stress to

container walls. Portable tanks stored over 1 tier high shall be designed to nest securely without dunnage. See UFC Standard 79.5 for requirements for portable tank design. Shelving, racks, dunnage, scuffboards, floor overlay and similar installations shall be of noncombustible construction or of wood not less than 1 inch nominal thickness. Adequate materials handling equipment shall be available to handle tanks safely at upper tier levels.

SPRINKLER SYSTEMS (CFC 7902.5.11.5.1):

Liquid storage rooms shall be protected by automatic sprinkler systems installed in accordance with the Building Code and Tables Nos. 7902.5-F, 7902.5-G, 7902.5-H, 7902.5-I or 7902.5-J. In-rack sprinklers shall also comply with UFC Standard No. 81-2. For in-rack sprinklers, alternate lines shall be staggered and multiple levels of sprinkler heads shall be provided with water shields unless separated by horizontal barriers or unless the sprinkler heads are listed for such installations. Racks with solid shelves shall be provided with in-rack sprinklers at every tier or level.

Automatic foam-water systems and automatic aqueous film-forming foam-water sprinkler systems may be used when approved.

PORTABLE FIRE EXTINGUISHERS:

One or more fire extinguishers having a rating of **20-B:C** shall be located not less than 10 feet and not more than 50 feet from hazard.

SPILL CONTROL AND DRAINAGE CONTROL:

Liquid storage rooms shall be provided with spill control and drainage control as set forth in Section 7901.8.

STORAGE IN BASEMENTS:

Class I liquids shall not be stored in basements.

DISPENSING AND MIXING:

Liquids shall not be dispensed or mixed in liquid storage rooms unless such rooms comply with the electrical, heating and ventilation requirements for use, dispensing and mixing rooms in Division VIII. Liquid storage rooms in which liquids are in open use, dispensed or mixed, shall be classified as Group H, Division 2 Occupancies.

VENTILATION:

Liquid storage rooms shall be ventilated in accordance with Section 8003.1.4.

NOTE: Rooms in which Class I, Class II and Class III-A flammable or combustible liquids are stored in closed containers shall be constructed in accordance with the requirements for a Group H, Division 3 Occupancy, CBC, Section 307.1.4, and to the following:

1. Rooms in excess of 500 square feet shall have at least one exterior door approved for Fire Department access.
2. Rooms shall be separated from other areas by an occupancy separation having a fire resistive rating of not less than one hour for rooms up to 150 square feet in area and not less than two hours where the room is more than 150 square feet in area. Separations from other occupancies shall not be less than required by Section 3.2, Table No. 3-B.
3. Shelving, racks and wainscoting in such areas shall be of noncombustible construction or wood of not less than 1 inch nominal thickness.
4. Rooms used for the storage of Class I flammable liquids shall not be located in a basement.